

FIG. 1

FIG. 2A

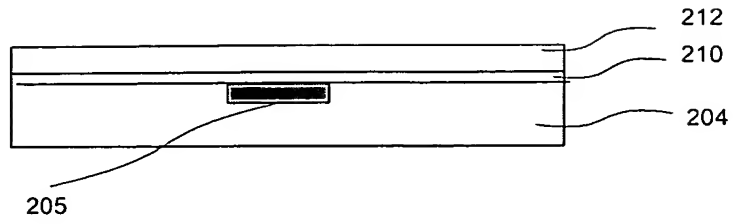


FIG. 2B

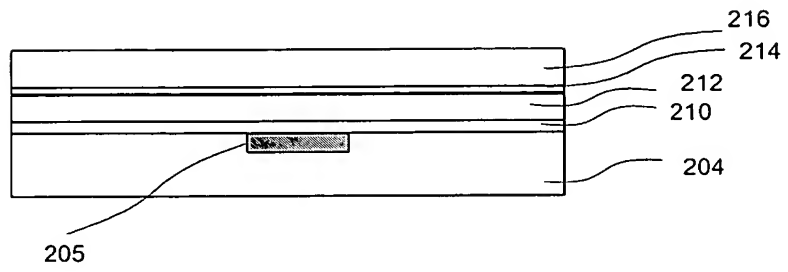


FIG. 2C

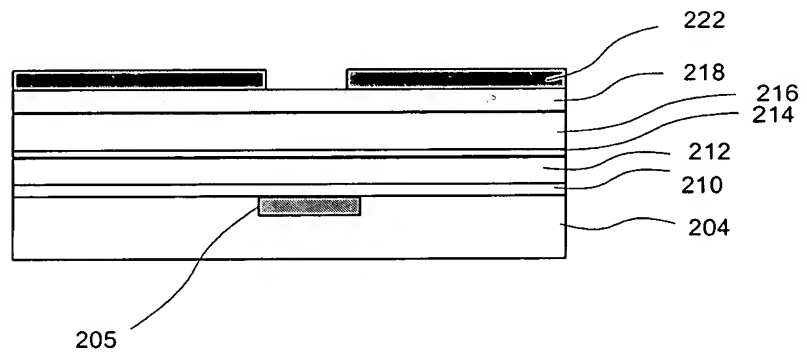
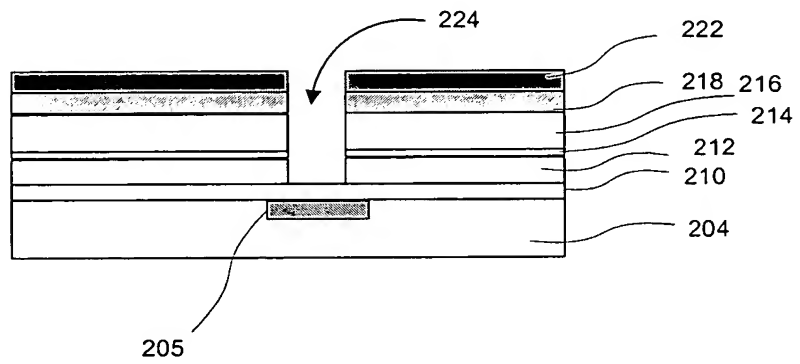
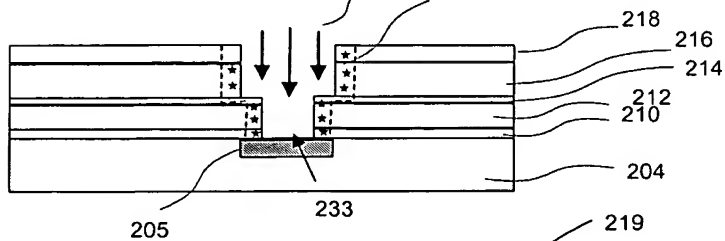


FIG. 2D



This diagram shows a cross-sectional view of a semiconductor device. A gate stack is formed on a substrate 204, consisting of a gate dielectric 210, a gate electrode 212, and a gate capping layer 216. A contact pad 224 is formed on the gate stack, and a contact plug 230 is formed in the contact pad. The contact plug 230 is connected to a conductive layer 228, which is connected to a conductive layer 218, which is connected to a conductive layer 214.



This cross-sectional view shows a semiconductor device with a central opening. The device consists of a substrate 204 with a thin layer 210 on top. A central opening 219 is formed in the substrate and the thin layer. The opening is filled with a material 235. The top surface of the device is covered by a layer 218. The side walls of the opening are lined with a material 216. The top surface of the opening is also lined with a material 212. The top surface of the device is also lined with a material 205. The top surface of the device is also lined with a material 233. The top surface of the device is also lined with a material 214.

[illegible]

A cross-sectional view of a semiconductor device. At the top, five downward-pointing arrows are labeled "IMPLANT". Below them, a series of stars (\*) are distributed across the top layer. A dashed rectangular box labeled "238" is shown within this top layer. To the right of this box, a solid rectangular box labeled "235" is shown, which appears to be a plug or a different material region. Above the "235" box, a label "240" points to a small feature. To the right of "240", a label "242" points to a curved line. On the far right, a label "216" points to the top surface, and a label "214" points to a layer just below it. Below "214", a label "212" points to another layer, and a label "210" points to a layer below that. At the bottom, a label "204" points to the base substrate. The diagram shows a multi-layered structure with various regions and features labeled with reference numerals.

FIG. 2J

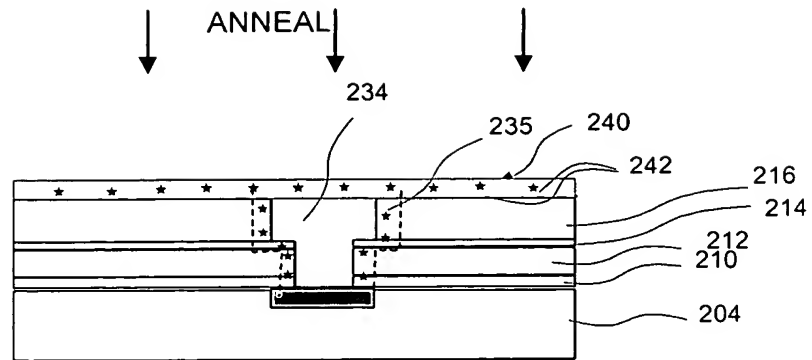


FIG. 2K

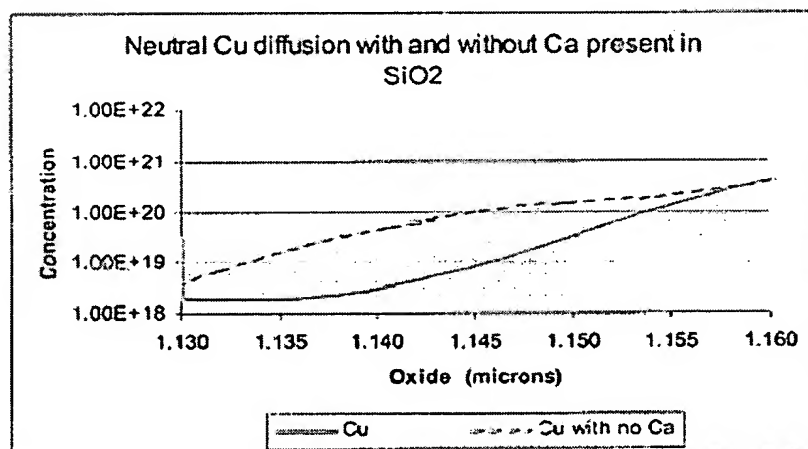
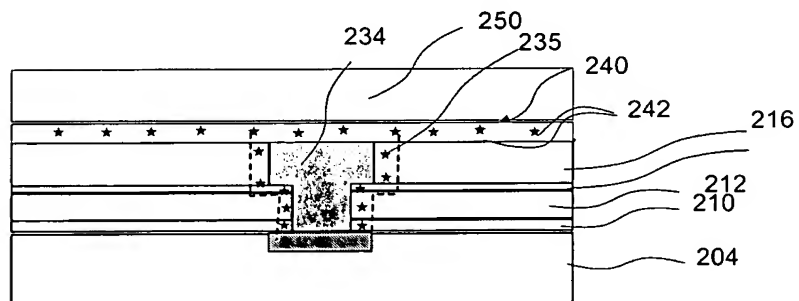


FIG. 3